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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,353	01/03/2006	Masahide Matsuura	28955.4040	8821
27890	7590	08/07/2009		
STEP TOE & JOHNSON LLP 1330 CONNECTICUT AVENUE, N.W. WASHINGTON, DC 20036			EXAMINER THOMPSON, CAMIE S	
			ART UNIT	PAPER NUMBER
			1794	
			MAIL DATE	DELIVERY MODE
			08/07/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/563,353

**Applicant(s)**

MATSUURA ET AL.

**Examiner**

Camie S. Thompson

**Art Unit**

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on After/Final Response.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date: \_\_\_\_\_

**DETAILED ACTION**

1. Examiner regrets the untimely reopening of prosecution.
2. Applicant's amendment and accompanying remarks filed July 7, 2009 are acknowledged.
3. The rejection of claims 1-3, 6, and 8-13 under 35 U.S.C. 102(e) as being anticipated by Arakane et al., U.S. Pre Grant Publication 2006/0257684 is withdrawn due to applicant's argument.
4. The rejection of claims 4-5 and 7 under 35 U.S.C. 103(a) as being unpatentable over Arakane et al., U.S. pre Grant Publication 2006/0257684 in view of Sakai et al., U.S. Patent Number 6,224,966 is withdrawn due to applicant's arguments.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakai et al., U.S. Patent Number 6,224,966.

Sakai discloses an organic EL device comprising at least two or more organic light-emitting layers sandwiched between a pair of electrodes wherein two or more of the organic light emitting layers are doped with a fluorescent substance. It is disclosed in column 2 of the Sakai reference that the host substance constituting each organic light emitting layer has an electron affinity of not smaller than 2.6 eV, which satisfies the relationship  $2.9 \text{ eV} < E_g(\text{Host-i})$  since not

smaller than 2.6 eV encompasses larger than 2.9 eV as required by the present claims (see also column 3, lines 50-68). It is disclosed in column 3, lines 5-9 of the Sakai reference that the difference in electron affinity between the host substances constituting the adjacent organic light-emitting layers is not smaller than 0.2 eV. The Sakai reference also discloses that the organic EL device comprises an electron transporting layer. The reference discloses that the electron transporting layer comprises oxadiazole derivatives as do the present claims. The present claims require that the electron transporting material be a heterocyclic derivative having a nitrogen atom and wherein the ionization potential of the electron transporting material is less than the ionization potential of the host material in the first light emitting layer + 0.3 eV. The Sakai reference comprises the same electron transporting material and light emitting material as required by the present claim and it would be expected that the reference satisfy the relation (III). Additionally, it would be expected that the energy gap (Eg) of the electron transporting material in the Sakai reference (an oxadiazole derivative) satisfy the relation  $2.9 \text{ eV} < E_g(\text{electron transporting material})$  since the reference and the present claims have the same materials required for the electron transporting layer and the first light emitting layer. It is disclosed in column 47, lines 18-25 of the Sakai reference that the cathode can be sodium as recited in present claim 7. Sodium has a small work function. It is disclosed in column 2, lines 33-68 that the ionization potential of the host substance constituting each organic light emitting layer satisfies the following requirement

$I_p(1) < I_p(2) < \dots < I_p(n)$  which reads on present claims 4 and 5. Sakai discloses that the organic host substance distyrylarylene derivatives as required by present claim 1. It is disclosed in column

39, lines 13-25 that the host substance employed in the light emitting layers is different, which will result in light emitting layers having different peak wavelengths of light emission. It is disclosed in column 45, lines 59-68 that the electron transportation layer can comprise an oxadiazole derivative as required by the present claims.

### ***Double Patenting***

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned

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with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-13 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of copending Application No. 10/529,238. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in both applications recite an organic electroluminescence device comprising electrodes with at least one light emitting layer (includes two or more light emitting layers) disposed therebetween wherein the at least one light emitting layer comprises a host material wherein the host material has an ionization potential is greater than 2.9 eV. The claims in both applications recite an electron transporting layer comprising a compound having nitrogen atom bonded to a condensed ring via an arylene group wherein the arylene group or condensed ring may be substituted.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

*Response to Arguments*

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9. Applicant's arguments with respect to the present claims have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Camie S. Thompson whose telephone number is 571-272-1530. The examiner can normally be reached on Monday-Friday 8:00 am - 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Camie S Thompson/  
Examiner, Art Unit 1794

| /Arti Singh-Pandey/  
Primary Examiner, Art Unit 1794

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